

Arizona Fertility Insurance Coverage

**Social and Fiscal Impacts of
Coverage for Infertility Treatments**

In Fulfillment of the Requirements of
A.R.S. 20- 182 & 183

Provided to Members of the
Joint Legislative Audit Committee
July 9, 2019

Prepared and Offered by:

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Joint Legislative Audit Committee

Arizona State Senate & House of Representatives
1700 W. Washington Street
Phoenix, AZ 85007

July 9, 2019

Dear Audit Committee Members:

Enclosed is the report to introduce a bill to require private insurance companies to cover infertility medical treatments in Arizona.

As the proponent of this bill, the undersigned are pleased to submit the following report pursuant to the requirements set forth in A.R.S 20-181 and 20-182

We thank you for your time and urge you to make Arizona more family friendly by requiring insurance companies to cover infertility medical treatment.

Sincerely,

Elizabeth Marshall

BACKGROUND

Infertility

Millions of American men and women who want to have children are unable without medical intervention. According to the Centers for Disease Control and Prevention (CDC), one in eight individuals or couples – 7.3 million Americans of childbearing age – have trouble getting pregnant or sustaining a pregnancy due to an underlying medical condition.ⁱ Infertility is the inability to conceive after one year of unprotected intercourse (six months if the woman is over age 35) or the inability to carry a pregnancy to live birth.ⁱⁱ

The American Medical Association (AMA), the World Health Organization (WHO), the American Society for Reproductive Medicine (ASRM), and the American College of Obstetricians and Gynecologists (ACOG) all recognize infertility as a disease.ⁱⁱⁱ Medical conditions, such as endometriosis, ovulation disorders, luteal phase defect, premature ovarian failure, and male factor are just some of the causes of infertility. Infertility doesn't discriminate - women and men of all ages (even those in their 20s) can have structural, hormonal, immunological diseases that impact fertility, or have sperm or egg quality issues. Approximately one-third of infertility is attributed to the female partner, one-third attributed to the male partner and one-third is caused by a combination of problems in both partners, or is unexplained.^{iv} In 2014, the AMA passed a resolution stating that the diagnosis and treatment of male and female infertility should be covered by health insurance.^v

Certain medical treatments, such as cancer treatment, may also cause infertility. Iatrogenic infertility is defined as infertility resulting from surgery, radiation, chemotherapy, or other medical treatment affecting fertility. The American Society of Clinical Oncology (ASCO) has issued guidelines that all at-risk patients should be informed about fertility preservation before the start of potentially sterilizing cancer treatment.^{vi} The AMA passed a resolution expressly calling for fertility preservation coverage for cancer patients.^{vii} Nearly one-third of male and 20% of female cancer patients diagnosed between 15 and 39 years of age identify cost as the primary reason for not arranging for fertility preservation prior to treatment.^{viii} What's more, a cancer diagnosis can also disqualify a couple from adopting.

Infertility is a devastating diagnosis. It cuts across socioeconomic levels, and all racial, ethnic, and religious lines. The desire to procreate is a basic life function and the ability to build a family is part of one's identity. Being unable to have a child affects people physically, emotionally, and financially.

There's enormous inequity in access to care for fertility medical treatment and fertility preservation services due to lack of insurance coverage. Cost is the number one barrier to fertility care for most suffering from this disease.^{ix} In particular, because Arizona doesn't require coverage for fertility medical treatments or fertility preservation, when a medical treatment causes future infertility, cost is a driving factor for why many state residents forgo treatment altogether or risk their family's financial security for the chance to build a family. Infertility is a disease and should be covered by health insurance like other diseases.

Proposed Bill

This bill will require individual health insurance policies or contracts delivered, renewed, extended, or modified in this State to provide coverage for the medically necessary tests and procedures for the diagnosis and treatment of infertility and fertility preservation to protect future fertility.

Infertility is the condition of an individual who's unable to conceive or produce conception during a period of one year if the female is age 35 or younger or during a period of six months if the female is over the age of 35. If a person conceives, but is unable to carry that pregnancy to live birth, the period of time she attempted to conceive prior to achieving that pregnancy shall be included in the calculation of the one-year or six-month period. Incases of iatrogenic infertility this wait is not required.

Individual and commercially sold health insurance policies covering persons residing in Arizona that provide pregnancy-related benefits must provide coverage - to the same extent that benefits are provided for other pregnancy-related procedures - for medically necessary expenses of diagnosis and treatment of infertility, including the following: artificial insemination, in vitro fertilization (IVF), sperm, egg and/or inseminated egg procurement and processing, and banking of sperm or inseminated eggs, ICSI, assisted hatching, and cryopreservation of eggs, embryos, sperm, and ovarian and testicular tissue. Diagnostic and exploratory procedures shall be covered, including surgical procedures to correct the medically diagnosed disease or condition of the reproductive organs, including but not limited to: endometriosis, disorders affecting the function of the fallopian tubes, testicular failure, uterine anomalies, and pelvic adhesive disease.

Coverage shall include medically necessary expenses for standard fertility preservation services when a necessary medical treatment may directly or indirectly cause iatrogenic infertility to a covered person. As used in this section, "iatrogenic infertility" means an impairment of fertility by surgery, radiation, chemotherapy, or other medical treatment affecting reproductive organs or processes.

Infertility treatment benefits, including IVF, shall be subject to the same deductibles, coinsurance, and out-of-pocket limitations as under pregnancy-related benefit provisions.

Coverage for IVF would be provided if the patient hasn't been able to attain or sustain a successful pregnancy to live birth after reasonable attempts with more basic medical interventions covered by insurance, unless IVF is the only medically indicated treatment. IVF would be limited to 3 cycles, with either fresh or frozen embryo transfers. Cryopreservation for inseminated and unfertilized eggs would be covered by insurance. IVF procedures must follow ASRM guidelines and be performed at medical facilities that conform to ACOG and ASRM guidelines.

Every policy that provides for prescription drug coverage shall also include medications for use in the diagnosis and treatment of infertility. Insurers shall not impose any exclusions, limitations, or other restrictions on coverage of fertility drugs that are different from those imposed on any other prescription drugs, nor shall they impose deductibles, copayment, coinsurance, benefit maximums, waiting periods, or any other limitations on

coverage for required fertility benefits, which are different from those imposed upon benefits for services not related to infertility.

Excluded treatment would be experimental infertility treatments, surrogacy, and reversal of voluntary sterilizations.

Social Impact

The extent to which the treatment or service is generally utilized by a significant portion of the population.

One in eight couples or more than 137,000 Arizonans are affected by infertility.^x Approximately 44% of women with infertility have sought medical assistance. Of those, approximately 65% give birth.^{xi} Approximately 85-90% of infertility cases are successfully treated with basic medical intervention, such as drug therapy or surgical procedures. Fewer than 15% need advanced reproductive technologies, like in vitro fertilization (IVF), the standard of care for some patients.^{xii}

9-10% of all cancer patients – about 3,600 Arizonans annually – are diagnosed in their reproductive years, the majority of which are at risk for iatrogenic (or medically-induced) infertility from their treatment.^{xiii} Iatrogenic infertility may also affect people undergoing treatment for sickle cell anemia, lupus, and other autoimmune diseases.

The extent to which the insurance coverage is already generally available.

Arizona law doesn't require private health insurance coverage for the treatment of infertility or for fertility preservation for iatrogenic infertility, so the costs must be paid out of pocket by patients who lack coverage. Insurance companies allow medium to large companies to elect for fertility coverage. For businesses to make the election they need to have 100+ employees. Small employers (100 or fewer employees) aren't allowed to make the election to have fertility coverage added to their plan. Small businesses employ 45.1% of the workforce in Arizona.^{xiv}

If coverage is not generally available, the extent to which the lack of coverage results in persons avoiding necessary health care treatments.

Cost is the number one barrier to fertility care. Only 44% of women and men diagnosed with infertility have sought medical assistance, thus the majority of couples are unable to access treatment in Arizona.

Lack of access to medical treatment costs Arizona employers more. Patients paying out of pocket are more likely to choose less expensive medical treatments that may not be the most effective for their particular diagnosis. These other treatments can result in riskier birth outcomes, such as multiple births, which are more common when IVF isn't the form of treatment.^{xv} Premature birth related to multiple pregnancies costs billions in pre-term care and long-term care. Multiple pregnancies add about \$4.2 billion to the costs for singleton pregnancies. The majority of these costs are currently being absorbed by health insurance under obstetric and pediatric

coverage.^{xvi} Pregnancies with the delivery of twins cost approximately 5 times as much when compared with singleton pregnancies; pregnancies with delivery of triplets or more cost nearly 20 times as much.^{xvii} Patients in states without an infertility insurance law are more likely to ask for multiple embryos to be transferred than patients in states with infertility insurance laws.^{xviii} Patients who must pay for IVF out of pocket face economic pressure to transfer more embryos in hopes of achieving pregnancy more rapidly and avoiding reoccurring treatment costs, despite the risks associated with a multiple pregnancy.

For cancer patients, fertility preservation must be decided and done very quickly, so cancer treatment can begin. On average, it takes two weeks for a female to complete an egg retrieval prior to beginning cancer treatment, and often the decision to pursue fertility preservation must be made within days of a cancer diagnosis. There's not time to raise the money, so patients may choose less effective cancer treatments in order to save their fertility. This can lead to disastrous, and costly, results if their cancer isn't cured or treated properly. Others may abandon their dreams of becoming a parent. This can lead to depression and other life-long issues.^{xix}

If the coverage is not generally available, the extent to which the lack of coverage results in unreasonable financial hardship to a patient.

The average cost of an IVF cycle in the United States is \$12,400^{xx}, and the average cost of egg banking is \$10,000-\$15,000.^{xxi}

According to a survey conducted by RESOLVE: The National Infertility Association, 67% of individuals or couples with infertility report spending at least \$10,000 on family building, including adoption and medical treatment.^{xxii} A Prosper survey found that women (25-34 years old) accrued \$30,000 of debt on average after undergoing fertility treatment.^{xxiii}

The level of public demand for the treatment or service.

Infertility affects one in eight couples (more than 137,000 Arizonans) yet one in four cannot afford treatment.^{xxiv}

The number of fertility specialists in Arizona has grown from 10 in 2010 to 17 in 2017.^{xxv}

The American Society of Clinical Oncology has issued guidelines that all at-risk patients should be informed about fertility preservation before the start of potentially sterilizing cancer treatment.

The level of public demand for insurance coverage of the treatment or service.

According to a 2003 Harris Interactive Poll, 80% of the general population believes infertility treatment should be covered by insurance.^{xxvi}

16 states have laws requiring insurance coverage for infertility treatment. Delaware passed a comprehensive infertility insurance law in 2018 and New York updated its insurance law in 2019 to include IVF coverage and

fertility preservation for iatrogenic (medically-induced infertility). Since 2017, six states, including DE and NY have passed laws requiring coverage for fertility preservation for iatrogenic (medically-induced) infertility.^{xxvii}

RESOLVE: The National Infertility Association believes infertility should be covered by health insurance, like other diseases. More than 90% of constituents surveyed in 2015 said that having health insurance plans cover infertility would have the biggest impact on people with infertility.^{xxviii}

The American Society for Reproductive Medicine states that “IVF is required to treat some forms of infertility and is also the standard of care when less invasive forms of treatment have proven unsuccessful. To deny coverage of IVF may result in riskier birth outcomes, such as multiple births, which are more common when IVF isn’t the form of treatment.”^{xxix}

The Association of Women’s Health, Obstetric and Neonatal Nurses (AWHONN) “supports the inclusion of all non-experimental infertility treatments as a covered health insurance benefit in public and private plans. Infertility is a disease of the reproductive system, and treatment should not be considered an elective therapy or procedure. Women who require gonadotoxic therapies to treat medical conditions such as cancer should be offered the option to cryopreserve embryos through in vitro fertilization or eggs through ovulation induction and egg retrieval.”^{xxx}

The American Medical Association passed Resolutions expressly calling for fertility preservation coverage for cancer patients and for insurance coverage for infertility.

Level of interest of collective bargaining agents

There’s no known interest in collective bargaining. We believe legislative action is required for the coverage of infertility treatments.

ⁱ Chandra A, Copen CE, Stephen EH. Infertility service use in the United States: data from the National Survey of Family Growth, 1982-2010. Natl Health Stat Report. 2014;22(73):1-21.2014.

ⁱⁱ American Society for Reproductive Medicine. http://www.asrm.org/Infographic_Causes_of_Infertility. Accessed July 14, 2015.

ⁱⁱⁱ Zegers-Hochschild F, Adamson GD, de Mouzon J. International Committee for Monitoring Assisted Reproductive Technology (ICMART) and the World Health Organization (WHO) revised glossary of ART terminology, 2009.

^{iv} American Society for Reproductive Medicine. Causes of infertility. http://www.asrm.org/Infographic_Causes_of_Infertility. Accessed July 14, 2015.

^v American Medical Association. <https://policysearch.ama-assn.org/policyfinder/detail/Infertility%20and%20Fertility%20Preservation%20Insurance%20Coverage%20H-185.990?uri=%2FAMADoc%2FHOD.xml-0-1168.xml>. 2014.

^{vi} American Society of Clinical Oncology. Fertility Preservation in Patients with Cancer. [http://www.asco.org/search/site/fertility%20preservation%20guidelines?f\[0\]=fctSiteName%3AASCO.org&f\[1\]=fctSiteName%3AMeeting%20Library](http://www.asco.org/search/site/fertility%20preservation%20guidelines?f[0]=fctSiteName%3AASCO.org&f[1]=fctSiteName%3AMeeting%20Library).2013.

^{vii} American Medical Association. <https://policysearch.ama-assn.org/policyfinder/detail/Infertility%20and%20Fertility%20Preservation%20Insurance%20Coverage%20H-185.990?uri=%2FAMADoc%2FHOD.xml-0-1168.xml>. 2014

^{viii} The Critical Mass, The Young Adult Cancer Alliance

^{ix} RESOLVE: The National Infertility Association. http://familybuilding.resolve.org/site/DocServer/RESOLVE17_AdvoFlyer_final_PRINT.pdf?docID=10272.2017.

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- ^x RESOLVE: The National Infertility Association. <http://familybuilding.resolve.org/fertility-scorecard/>. 2017.
- ^{xi} Mercer Health and Benefits LLC. Employer experience with, and attitudes toward, coverage of infertility treatment. May 31, 2006. http://familybuilding.resolve.org/site/DocServer/Mercer_-_Resolve_Final_report.pdf?docID=4361. Accessed July 20, 2015.
- ^{xii} Chandra A, Copen CE, Stephen EH. Infertility service use in the United States: data from the National Survey of Family Growth, 1982-2010. *Natl Health Stat Report*. 2014;22(73):1-21.2014.
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- ^{xiv} U.S. Small Business Administration. <https://www.sba.gov/sites/default/files/advocacy/Arizona.pdf>.2016.
- ^{xv} Martin JR, Bromer JG, Sakkas D, Patrizio P. Insurance coverage and in vitro fertilization outcomes: a U.S. perspective. *Fertil Steril*. 2011;95(3):964-969.
- ^{xvi} Behrman RE, Butter AS. Societal costs of preterm birth. In: *Preterm birth: causes, consequences, and prevention*. Washington DC: National Academies Press, 2007: 398-429.
- ^{xvii} Jain, et al., "Insurance Coverage and Outcomes of In Vitro Fertilization" *New England Journal of Medicine*, August 2002.
- ^{xviii} Stillman RJ, Richter KS, Banks NK, Graham JR. Elective single embryo transfer: a 6-year progressive implementation of 784 blastocyst transfers and the influence of payment method on patient choice. *Fertil Steril*. 2009;92(6):1895-1906.
- ^{xix} RESOLVE: The National Infertility Association. <http://www.resolve.org/get-involved/the-center-for-infertility-justice/state-legislation/fertility-preservation-fact.pdf>.2017.
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- ^{xxvi} RESOLVE: The National Infertility Association. http://www.resolve.org/family-building-options/insurance_coverage/insurance-coverage-request-letter.html. 2017.
- ^{xxvii} RESOLVE: The National Infertility Association. http://www.resolve.org/family-building-options/insurance_coverage/state-coverage.html.2017.
- ^{xxviii} RESOLVE: The National Infertility Association. <http://www.resolve.org/get-involved/the-center-for-infertility-justice/blog/access-to-care.html>.2017.
- ^{xxix} American Society for Reproductive Medicine. <http://www.resolve.org/get-involved/the-center-for-infertility-justice/state-legislation/asrm-letter-of-support.pdf>.2017.
- ^{xxx} *Journal of Obstetric, Gynecologic & National Nursing*. http://www.jognn.org/article/S0884-2175%2815%2931517-3/abstract?utm_source=awhonn.org#.WZNt7vBKD7w.email

MILLIMAN REPORT

Infertility coverage actuarial study

Financial impact requirements for A.R.S. § 20-182

October 2018

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Background

The International Committee for Monitoring Assisted Reproductive Technologies (ICMART) defines infertility as “a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse.”¹ Currently, nine states have laws requiring insurers to cover the diagnosis and treatment of infertility, where the coverage includes In Vitro Fertilization (IVF).^{2,3} RESOLVE: The National Infertility Association (hereafter referred to as ‘RESOLVE’), a 501(c)3 national patient advocacy organization, engaged Milliman to provide an actuarial report for a Bill (SB 1149)⁴ introduced to the Arizona legislature regarding infertility benefits in health insurance. The purpose of this report is to satisfy the financial impact requirements of A.R.S. § 20-182 for the bill.

DISCLOSURES

This report was commissioned by RESOLVE.

The authors of this report are members of the American Academy of Actuaries and meet its qualification standards for this communication. The findings reflect the research of the authors; Milliman does not intend to endorse any product, organization, or legislation. If this report is reproduced, we ask that it be reproduced in its entirety, as pieces taken out of context can be misleading. As with any economic or actuarial analysis, it is not possible to capture all factors that may be significant. Because we present the data relative to Arizona, the findings should be interpreted carefully before they are applied to any particular situation. These results are based on analysis of Truven MarketScan claims and membership data from 2016. Different data sets, time periods and methodologies will produce different results.

Financial impact

(A) THE EXTENT TO WHICH THE COVERAGE WILL INCREASE OR DECREASE THE COST OF THE TREATMENT OR SERVICE

We have no reason to believe that covering infertility benefits in an insurance plan will change the fees charged for infertility services.

(B) THE EXTENT TO WHICH THE COVERAGE WILL INCREASE THE APPROPRIATE USE OF THE TREATMENT OR SERVICE

Including infertility treatment in health insurance coverage removes a large portion of the financial burden for paying for these services, and thus can provide freedom to the insured individual and her doctor to choose the most clinically appropriate course of treatment.

(C) THE EXTENT TO WHICH THE MANDATED TREATMENT OR SERVICE WILL BE A SUBSTITUTE FOR A MORE EXPENSIVE TREATMENT OR SERVICE

The mandated treatment or service will not be a substitute for a more expensive treatment or service.

¹ Zegers-Hochschild, F. et al. “International Committee for Monitoring Assisted Reproductive Technology (ICMART) and the World Health Organization (WHO) revised glossary of ART terminology, 2009.” *World Health Organization* Vol. 92, No. 5 (2009): 1522. Web. 27 Aug. 2018.

² “State Laws Related to Insurance Coverage for Infertility Treatment.” *National Conference of State Legislatures*, NCSL, 27 Apr. 2018. <http://www.ncsl.org/research/health/insurance-coverage-for-infertility-laws.aspx>.

³ Arkansas, Connecticut, Delaware, Hawaii, Illinois, Maryland, Massachusetts, New Jersey, and Rhode Island have mandated coverage that includes IVF. Louisiana, Montana, New York, Ohio, and West Virginia have some form of mandated coverage that excludes IVF. California and Texas have a requirement to offer coverage.

⁴ The proposed legislation can be found at: <https://www.azleg.gov/legtext/53leg/2R/bills/SB1149P.pdf>.

(D) THE EXTENT TO WHICH THE COVERAGE WILL INCREASE OR DECREASE THE ADMINISTRATIVE EXPENSES OF INSURERS AND THE PREMIUM AND ADMINISTRATIVE EXPENSES OF POLICYHOLDERS

We expect that the coverage will have a minimal, trivial effect on the administrative expenses of insurers. We expect the impact to premiums will stem entirely from the increase to the total cost of health care, which is expected to be quite small, as described in the following section.

(E) THE IMPACT OF THIS COVERAGE ON THE TOTAL COST OF HEALTH CARE

We estimate that a conservative projection of the impact of this coverage on the total cost of care is 0.26% over current spending in the absence of a coverage mandate. The specific definition of the coverage to be mandated can be found in the link in footnote 4 above. The cost increase can be broken up into three distinct parts, shown in Table 1 below.

TABLE 1: INFERTILITY TREATMENT COST INCREASE BREAKDOWN

SOURCE OF INCREASE	PMPM COST	PERCENT INCREASE
Medical	\$0.50	0.10%
Pharmacy	\$0.24	0.05%
Multiple and Premature Births	\$0.63	0.12%
Total Increase	\$1.37	0.26%

The three components of the cost increase in Table 1 are discussed in more detail below.

Medical cost increase

The increase in medical cost is estimated to be 0.10% of total current costs in Arizona⁵, or a \$0.50 increase on a PMPM ('Per Member Per Month') basis. We analyzed infertility treatment costs (including IVF, IUI, other treatments, and all related medical care that would be included on a claim) in states that currently have a coverage mandate and compared them to infertility treatment costs in Arizona, finding a differential of between -\$1.18 and +\$0.60. A cost increase of \$0.50 is conservative considering the level of infertility treatment spending currently observed in Arizona in the absence of a coverage mandate. Seven out of the eight states in our study⁶ that currently have an infertility treatment coverage mandate that includes IVF had lower costs than in Arizona.

Pharmacy cost increase

The increase in pharmacy costs is estimated to be 0.05% of total current costs in Arizona, or a \$0.24 increase on a PMPM basis. We estimated the total pharmacy cost of infertility treatments in Arizona assuming coverage using the 2018 Milliman Commercial Health Cost Guidelines. We then used the estimated percentage increase in medical costs⁷ to infer current Arizona pharmacy spending without the coverage mandate. The difference between the two estimates defines the \$0.24 PMPM increase.

Multiple and premature birth cost increase

We expect that the rate of multiple births and premature births (not necessarily mutually exclusive) seen in pregnancies utilizing assisted reproductive technology (ART) will decrease with the presence of the coverage mandate. But, the absolute number of ART pregnancies is expected to increase with the coverage mandate, producing a cost increase due to multiple and premature births. The increase in cost is estimated to be 0.12% of total current costs in Arizona, or a \$0.63 increase on a PMPM basis. We determined this by reviewing data on the

⁵ Medical plus pharmacy cost estimates for Arizona.

⁶ Delaware was not included in the study because SB139 was not signed into law until 6/30/2018. The source of our claims data is the 2016 MarketScan database.

⁷ The ratio applied to the pharmacy costs is calculated as the infertility treatment medical cost increase divided by current infertility treatment medical spending in Arizona.

estimated counts of maternity admits per 1,000 member months, the estimated cost increase of multiple and/or premature births over births that are not multiple and/or premature, and estimates of the percentage change in births conceived with the aid of infertility treatments and the percentage change in multiple and/or premature births with infertility treatments in states with and without a coverage mandate.

Methodology & data

This section describes the methodology and data used for each component of the cost increase calculation.

Medical cost increase

We used infertility treatment cost data found in the 2016 MarketScan database as the basis of our analysis. We captured costs for all claims with a CPT4/HCPCS code in the list defined in the Appendix at the end of this report. The codes used include IVF, IUI, and other treatments for infertility. We looked at the nine states that currently have an infertility treatment coverage mandate that includes IVF coverage as the basis for comparison to current Arizona costs. Costs were adjusted in the following ways to aid in the comparison:

- Total cost was divided by total member months in each state to create a 'Per Member Per Month' (PMPM) cost.
- 'Cost' is defined as 175% of Medicare allowed charges to normalize fee levels.
- Claims are trended two years to 2018 levels using the Milliman Medical Index non-Rx trend (3.9% annual trend).

The analysis of Medical claim costs focused on how current Arizona spending on infertility treatments compared to states that already have a coverage mandate.

We included CPT4/HCPCS codes for fertility preservation in the analysis, but there was minimal spending in current data. Fertility preservation has recently been added to some states that already have the coverage mandate, but not recently enough to be included in the 2016 MarketScan database. The Arizona bill includes fertility preservation, but we do not expect it to be a major cost driver after reviewing a comparative cost estimate that was performed for Maryland.⁸

No explicit adjustment was made to reflect induced demand for infertility treatments, but we believe the built-in conservatism in our estimate will cover any increased utilization due to the coverage mandate. We note that Arizona already has significant utilization of infertility treatments, so an increase in utilization due to induced demand is likely to be small.

Pharmacy cost increase

We estimated the amount of pharmacy spending for infertility treatments from the 2018 Milliman Commercial Health Cost Guidelines. This estimate represents the total cost of drugs associated with infertility treatments when such treatments are covered under a health plan. For the purposes of this report, we need to estimate the increase in pharmacy spending that will result from the adoption of a benefit mandate. We estimated the change in pharmacy cost will be proportional to the change in the increase in infertility treatment costs.

Multiple and premature birth cost increase

Calculating the increase in cost due to multiple and premature births involves several components listed in Table 2 on the following page.

⁸ We reviewed a November 2017 report that was prepared for the Maryland Health Care Commission.

TABLE 2: COMPONENTS FOR ESTIMATING COST INCREASE DUE TO PREMATURE BIRTHS

1. 2018 Milliman Commercial Health Cost Guidelines – Annual maternity admits per 1,000 member months
2. Proprietary Milliman research – Additional cost of infants born prematurely compared to infants not born prematurely in the first year of life
3. AJOG – “*Healthcare expenses associated with multiple vs singleton pregnancies in the United States*”⁹ – Cost of singleton births and multiple births
4. HHS Public Access – “*Embryo transfer practices and perinatal outcomes by insurance mandate status*”¹⁰ – Percent of births conceived by ART (assisted reproductive technology) and percent of ART deliveries that were premature, with and without a coverage mandate
5. Milliman Medical Index (MMI) – Inpatient trend

A state with the coverage mandate (that includes IVF) is expected to have a higher rate of births conceived by ART than a state without the coverage mandate (2.9% compared to 0.8%). Additionally, a state with the coverage mandate compared to a state without the mandate is expected to have lower rates of ART deliveries that are premature singleton births (11.5% compared to 15.7%), twin births (25.7% compared to 31.1%), and births with triplets or more (1.0% compared to 2.3%). While the rate of ART deliveries that are multiple and/or preterm are lower with the mandate, the overall increase in ART deliveries means that the number of multiple or preterm births will increase under the coverage mandate, hence increasing the cost of coverage.

It is reasonable to believe that new ASRM (American Society of Reproductive Medicine) guidelines will reduce the number of multiple births. To this end, then, we applied a 50% reduction factor to the percent of ART deliveries that are multiple births to both a state with the coverage mandate and a state without the coverage mandate. Note that the underlying premise of this approach is that the new ASRM guidelines will reduce multiple births regardless of the presence of a coverage mandate.

The above percentages were applied to cost estimates for premature singleton births, twin births, and births with triplets or more to calculate the cost difference in a state with a coverage mandate (that includes IVF) compared to a state without a coverage mandate.

Total cost of health care

The ‘total cost of health care’ that defines the denominator in the percent increase calculations seen above in Table 1 was calculated from the 2018 Milliman Commercial Health Cost Guidelines. The following adjustments were made to the total cost estimate:

- Adjusted from national average to Arizona geographic area.
- ‘Cost’ is defined as 175% of Medicare allowed to standardize the spending.

Caveats and limitations

DATA RELIANCE

In performing this analysis, we relied on information provided by RESOLVE including:

- Information about the bill SB 1149.

⁹ Lemos, Elkin V. et al. “Healthcare expenses associated with multiple vs singleton pregnancies in the United States.” *American Journal of Obstetrics & Gynecology* (December 2013): 586e1-586.e11. Web. 13 Sep. 2018.

¹⁰ Boulet, Sheree L. et al. “Embryo Transfer Practices and Perinatal Outcomes by Insurance Mandate Status.” *Fertility and sterility* 104.2 (2015): 403–409.e1. PMC. Web. 27 Aug. 2018.

- Information about infertility treatment and coverage.
- Example financial impact studies.
- A report prepared for the Maryland Health Care Commission on the cost of coverage for fertility preservation for iatrogenic infertility.
- We provided a HCPCS code list to RESOLVE for their review and approval. They provided a set of additional codes from Shady Grove Fertility. While we considered this code list, it was ultimately not used in the study as it resulted in the inclusion of claims that were not related to infertility treatments.

Additionally, we relied on the sources described above in Table 2 for information on the cost of premature births in states with and without a coverage mandate.

We performed a review of the data used directly in our analysis for reasonableness and consistency and have not found material defects in the data. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete.

VARIABILITY OF RESULTS

Differences between our projections and actual amounts depend on the extent to which future experience conforms to the assumptions made for this analysis. It is certain that actual experience will not conform exactly to the assumptions used in this analysis. Actual amounts will differ from projected amounts to the extent that actual experience deviates from expected experience.

LIMITATIONS ON DISTRIBUTION

This report has been prepared for RESOLVE. It is our understanding that this document may be provided to the Arizona legislature for review. To the extent that the information contained in this report is provided to third parties, the report should be distributed in its entirety. Any user of the data must possess a certain level of expertise in actuarial science and healthcare modeling so as not to misinterpret the data presented.

Milliman makes no representations or warranties regarding the contents of this report to third parties. Likewise, third parties are instructed that they are to place no reliance upon this report prepared for RESOLVE by Milliman that would result in the creation of any duty or liability under any theory of law by Milliman or its employees to third parties.

This information is subject to the existing Consulting Services Agreement between RESOLVE and Milliman dated June 4, 2018.

AMERICAN ACADEMY OF ACTUARIES STATEMENT ON PROFESSIONAL QUALIFICATIONS

Guidelines issued by the American Academy of Actuaries require actuaries to include their professional qualifications in all actuarial communications. The authors of this report are members of the American Academy of Actuaries, and meet the qualification standards for performing this analysis.

Appendix – HCPCS code list

The below list of intrauterine insemination (IUI), In Vitro Fertilization (IVF) and other treatment HCPCS codes was used to identify infertility treatment claims. Milliman reviewed the list with RESOLVE and reviewed cost summaries to determine that this list of codes was appropriate to capture the majority of infertility treatment medical claims.

54500, 54505, 55200, 55300, 55400, 55550, 55870, 58321, 58322, 58323, 58340, 58345, 58350, 58540, 58560, 58672, 58673, 58679, 58700, 58740, 58750, 58752, 58760, 58770, 58920, 58970, 58974, 58976, 74740, 76831, 76948, 83001, 83002, 89250, 89251, 89253, 89254, 89255, 89257, 89258, 89259, 89260, 89261, 89264, 89268, 89272, 89280, 89281, 89290, 89291, 89300, 89310, 89320, 89321, 89322, 89325, 89329, 89330, 89331, 89335, 89342, 89343, 89344, 89346, 89352, 89353, 89354, 89356, 89398, 0058T, 0357T, G0027, J0725, J3355, Q0115, S0122, S0126, S0128, S0132, S3655, S4011, S4013, S4014, S4015, S4016, S4017, S4018, S4020, S4021, S4022, S4023, S4025, S4026, S4027, S4028, S4030, S4031, S4035, S4037, S4040, S4042